

Application No.: 09/051,547
Amendment dated: February 24, 2004
Reply to Office Action of: December 9, 2003

MDA-2570US
(formerly MTS-2570US)

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A picture decoding and coding apparatus comprising:
 - a picture coding apparatus including picture coding means of coding pictures and providing a picture identifier for each picture as an I, P or B picture,
 - priority providing means of correlating each coded picture with a priority identifier which assigns a priority level to one or more frames of the coded pictures, and
 - transmission control means of transmitting or recording the coded pictures with the priority identifiers; and
 - a picture decoding apparatus including reception control means of receiving or reading the coded pictures with the priority identifiers,
 - picture decoding means of decoding the coded pictures with the priority identifiers,
 - wherein each priority identifier is used by the picture decoding apparatus to determine whether each picture should be processed or not be processed according to a processing load or a processing capacity of the picture decoding apparatus, and each priority identifier is used independently of the picture identifiers and independently of whether the picture is an I, P or B picture, and
 - a decision to discard or not discard a picture is based on the priority identifier[[]], and
 - discarding a picture includes discarding an end-of-frame.
2. (Cancelled)
3. (Previously Presented) The apparatus of claim 1, including priority providing means for determining the priority of processing when coded information is

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overloaded by a predetermined standard, and corresponding between said coded information and said determined priority, and said picture decoding apparatus and/or sound decoding apparatus includes priority decision means for determining the method of processing according to the priority when the received various information is overloaded.

4. (Previously Presented) The apparatus of claim 3, wherein said priority providing means and priority decision means determine the priority providing method for determining the sequence of decoding, synthesizing and displaying of coded pictures or sounds, and the processing method of presence or absence, or determine the priority of the object of processing, according to at least one information or more out of the picture coding method, picture size, contrast, picture synthesizing ratio, quantization step, frame number, number of frames, difference of inter-frame coding and intra-frame coding, display position, display time, and difference of voiced section and silent section.

5. (Previously Presented) The apparatus of claim 3, wherein said priority providing means and priority decision means determine the priority to be assigned to the coded information, or determine the priority of object of processing when decoding, according to the time required for decoding or the time required for coding when coding the picture.

6. (Previously Presented) The apparatus of claim 3, wherein said priority providing means and priority decision means define the execution rate for specifying the number of times of execution of processing of decoding, synthesizing or displaying of pictures, and determine the priority to be assigned to the coded information, or determine the priority of object of processing when decoding, according to the execution rate.

7. (Previously Presented) The apparatus of claim 4, wherein the priority is set high in processing in overload of at least a frame of intra-frame coding, first frame or last frame, or scene change frame.

8. (Previously Presented) The apparatus of claim 4, wherein same priority is assigned in the inter-frame coded pictures.

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9. (Previously Presented) The apparatus of claim 4, wherein plural steps of priority are assigned in intra-frame coded pictures.
10. (Previously Presented) The apparatus of claim 1, wherein said picture decoding means decodes the picture in a specified unit smaller than one frame.
11. (Previously Presented) The apparatus of claim 1, wherein the sequence of pictures and sounds to be decoded, synthesized or displayed, presence or absence, or reproducing method is determined, according to at least one information or more out of the accounting information, service content information, password, user code, nation code, information showing rank of synthesis or display, information showing rank of decoding, user's instruction, terminal processing capacity, and reproduction time.
12. (Previously Presented) The apparatus of claim 1, wherein said reception control means handles the information describing the mutual relation of information of pictures or information of sounds, out of the various information, independently as different information from the picture information or sound information.
13. (Previously Presented) The apparatus of claim 12, wherein the describing method is distinguished by an identifier for distinguishing the describing method for describing the mutual relation of information of pictures or information of sounds.
14. (Previously Presented) The apparatus of claim 1, wherein said picture synthesizing means or sound synthesizing means holds, controls and utilizes the result of decoding until it is instructed to discard the result of decoding from the transmission side.
15. (Previously Presented) The apparatus of claim 1, wherein the user is informed of the presence of pictures or sounds that cannot be synthesized because necessary decoded pictures or sounds are not prepared, when synthesizing the pictures or sounds, on the basis of the information describing the mutual relation of information of pictures or information of sounds.
- 16.-19. (Cancelled).
20. (Currently Amended) A picture coding apparatus comprising:

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picture coding means of coding pictures and providing a picture identifier for each picture as an I, P or B picture,

priority providing means of correlating each coded picture with a priority identifier which assigns a priority level to one or more frames of the coded pictures, and

transmission control means of transmitting or recording the coded pictures with the priority identifiers to a picture decoding apparatus,

wherein each priority identifier is used by the picture decoding apparatus to determine whether each picture should be processed or not be processed according to a processing load or a processing capacity of the picture decoding apparatus, and each priority identifier is used independently of the picture identifiers and independently of whether the picture is an I, P or B picture, and

a decision to discard or not discard a picture is based on the priority identifier[[.]], and

discarding a picture includes discarding an end-of-frame.

21. (Currently Amended) A picture decoding apparatus comprising:

reception control means of receiving or reading coded pictures with correlated priority identifiers transmitted from a picture coding apparatus, and picture identifiers for each picture as an I, P or B picture, each of the priority identifiers assigning a priority level to one or more frames of the coded pictures,

picture decoding means of decoding the coded pictures with the priority identifiers,

wherein each priority identifier is used by the picture decoding apparatus to determine whether each picture should be processed or not be processed according to a processing load or a processing capacity of the picture decoding apparatus, and each priority identifier is used independently of the picture identifiers and independently of whether the picture is an I, P or B picture, and

a decision to discard or not discard a picture is based on the priority identifier[[.]], and

discarding a picture includes discarding an end-of-frame.

22. (Withdrawn) A sound coding apparatus comprising sound coding means for coding sound information, and transmission control means for transmitting or recording coded various information,

wherein the coded various information is delivered to a sound decoding apparatus comprising reception control means for receiving coded various information, sound decoding means for decoding the received various information, and output means for delivering the decoded sound.

23. (Cancelled)

24. (Currently Amended) A picture decoding apparatus comprising:

a receiver for receiving (a) coded pictures transmitted from a picture coding apparatus, and (b) a priority level associated with each coded picture, wherein the priority level is assigned to one or more frames of the coded pictures and obtained from a listing of more than two priority levels arranged in order of importance,

a processor for processing the coded pictures, and

output means of delivering the processed pictures,

wherein the processor processes a picture or discards a picture according to a load or processing capacity of the processor, deciding to process or discard the picture based on its level of importance from the more than two priority levels, and

a decision to discard or not discard a picture is based on the priority identifier[[.]], and

discarding a picture includes discarding an end-of-frame.

25. (Currently Amended) A method of processing pictures from a coding apparatus to a decoding apparatus comprising the steps of:

(a) receiving from the coding apparatus (i) coded I, P and B pictures and
(ii) a picture identifier for identifying each picture as an I, P or B picture;

(b) receiving from the coding apparatus a priority identifier associated with each coded I, P or B picture, the priority identifier assigning a priority level to one or more frames of the coded pictures and derived from a listing of priority levels arranged in order of importance;

(c) determining at the decoding apparatus a processing load or a processing capacity of the decoding apparatus;

(d) processing or discarding a received coded picture according to the determined processing load or processing capacity of the decoding apparatus in step (c) and the received priority identifier,

wherein the received coded picture is processed or discarded based on its level of importance derived from the listing arranged in order of importance, and independently of the picture identifier, and independently of whether the picture is an I, P or B picture, and

a decision to discard or not discard a picture is based on the priority identifier[[]], and

discarding a picture includes discarding an end-of-frame.

26. (Previously Presented) The method of claim 25 in which the priority identifier received in step (b) is derived from a listing of more than two priority levels arranged in order of importance.

27. (Currently Amended) A picture decoding apparatus comprising:

a picture coding apparatus including picture coding means of coding a picture, and transmission control means of transmitting or recording coded various information corresponding to the picture, and

a picture decoding apparatus including reception control means of receiving the coded various information, picture decoding means of decoding received various

information, picture synthesizing means of synthesizing one or more decoded pictures, and output means of delivering the synthesized pictures,

wherein the coded various information includes a picture identifier and a priority identifier, the picture identifier being for each picture as an I, P or B picture, and the priority identifier indicating a priority of which the picture is to be processed according to a load processed by a reception side terminal or processing capacity of a reception side terminal, and

a decision to discard or not discard a picture is based on the priority identifier[[.]], and

discarding a picture includes discarding an end-of-frame.

28. (Currently Amended) A picture coding apparatus comprising:

picture coding means for coding a picture, and transmission control means for transmitting or recording coded various information,

wherein the coded various information is to be delivered to a picture decoding apparatus comprising reception control means for receiving coded various information, picture decoding means for decoding the received various information, and output means for delivering the decoded picture,

wherein the coded various information includes a picture identifier and a priority identifier, the picture identifier being for each picture as an I, P or B picture, and the priority identifier indicating a priority of which the picture is to be processed according to a load processed by a reception side terminal or processing capacity of the picture decoding apparatus, and

a decision to discard or not discard a picture is based on the priority identifier[[.]], and

discarding a picture includes discarding an end-of-frame.

29. (Currently Amended) A picture decoding apparatus comprising:

reception control means for receiving coded various information transmitted from a picture coding apparatus including picture coding means for coding a picture,

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and transmission control means for transmitting or recording coded various information corresponding to the picture,

picture decoding means for decoding the received various information, and

output means for delivering the decoded picture,

wherein the coded various information includes a picture identifier and a priority identifier, the picture identifier being for each picture as an I, P or B picture, and the priority identifier indicating a priority of which the picture is to be processed according to a load processed by a reception side terminal or processing capacity of the picture decoding apparatus, and

a decision to discard or not discard a picture is based on the priority identifier[[]], and

discarding a picture includes discarding an end-of-frame.

30. (Previously Presented) The apparatus of claim 27, 28 or 29, wherein the picture is a stream including plural frames.

31. (Previously Presented) The apparatus of claim 27, 28 or 29, wherein the picture is a single frame.